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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,686	12/12/2003	Young Hwa Kim	78693-344308	1211

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EXAMINER
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PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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11/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/734,686	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Andrew T. Piziali	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 47-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/7/2008 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 47-65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "supple...fabric" renders the claims indefinite. All fabrics are supple (bendable) to some degree. Therefore, it is not clear what flexibility is being claimed.

The phrases "globally flexible" and "flexible" render the claims indefinite. All materials are flexible to some degree. Therefore, it is not clear what flexibility is being claimed.

The phrase "locally hard" renders the claims indefinite. All materials are hard to some degree. Therefore, it is not clear what hardness is being claimed.

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The phrase "small...guard plates" renders the claims indefinite. It is not clear what size is being claimed.

The limitation "generally uniform thickness" renders the claims indefinite. It is not clear how much uniformity is being claimed.

The applicant claims "hard" polymer plates, but all materials are hard to some degree. Therefore, it is not clear what hardness is being claimed.

The word "predetermined" renders the claims indefinite. Use of "predetermined" has been held to be indefinite in a claim where it simply means determined beforehand, *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

The phrase "substantially portion" renders the claims indefinite. It is not clear what portion is being claimed.

The phrase "about 3 to 1" renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

The phrase "substantially less" renders the claims indefinite. It is not clear what thickness is being claimed.

The phrase "about 100 mils" renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what size is covered by the term "about."

The phrase "substantially harder" renders the claims indefinite. It is not clear what hardness is being claimed.

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The phrase "substantially determined" renders the claims indefinite. It is not clear how much is determined.

The phrase "substantially greater" renders the claims indefinite. It is not clear how much greater is being claimed.

Regarding claim 48, the phrase "about 50 mils and about 100 mils" renders the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

Regarding claims 49, 53, 54, 55 and 60, the phrase "about 2 and 1" renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

Regarding claim 50, the phrase "about 1" renders the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

Regarding claim 51, the phrase "about 5 mils and about 15 mils" renders the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

Regarding claim 52, the phrase "about 5 and about 20 mils" renders the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term "about."

Regarding claims 53, 55 and 63, the phrases "about 100 mils," "about 20 mils," and "about 15 mils" render the claims indefinite because there is nothing in the specification,

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prosecution history, or the prior art to provide any indication as to what range is covered by the term “about.”

Regarding claims 54, 60 and 61, the phrases “about 80 mils,” “about 14 mils,” and “about 15 mils” render the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “about.”

Regarding claim 55, the phrases “about 40 mils” and “about 30 mils” render the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “about.”

Regarding claims 60 and 62, the phrase “about 50 mils” renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “about.”

Regarding claim 64, the phrase “about 40 degrees” renders the claim indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “about.”

### ***Claim Rejections - 35 USC § 102/103***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 47-65 are rejected under 35 U.S.C. 102(b) and/or 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6,383,614 to Carson.

Carson discloses a supple, globally flexible and locally hard abrasion resistant composite fabric, comprising: a flexible substrate having an abrasion resistance; an array of small, generally uniform thickness, non-overlapping, hard, convex geometric-shaped, printed polymer material guard plates arranged in a predetermined pattern and having an area with major and minor dimensions on a substantial portion of a surface of the substrate, the polymer material of the guard plates partially penetrating into the substrate across the entire area of the guard plates to provide a mechanical bond between the guard plates and the substrate to prevent detaching of the guard plates from the substrate when the substrate is flexed, having an area parallel to the substrate with a major dimension to minor dimension aspect ratio between about 3 and 1, wherein a largest distance between adjacent guard plates is less than the lengths of the minor dimensions, the thickness of the guard plates is substantially less than the lengths of the minor dimensions, the minor dimensions are less than about 100 mils, the guard plates are substantially harder than the substrate such that overall flexibility of the composite fabric is substantially determined by the flexibility of the substrate and the distances between the guard plates, and the overall abrasion resistance of the composite fabric is substantially greater than the abrasion

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resistance of the substrate (see entire document including the Figures, column 4, line 57 to column 5, line 54, and column 6, line 67 to column 8, line 13).

The guard plates appear to have the claimed dimensions (column 4, lines 11-27 and the Figures). In addition, Carson discloses that the desired guard plate size, shape, and spacing is dependent on slice resistance and disposability (column 4, lines 11-27) and that the guard plates may be formed with any desired size, shape, and spacing (column 5, lines 31-54) depending of the intended application (column 8, lines 14-25). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the dimensions and/or shape, such as claimed, because it is understood by one of ordinary skill in the art that the dimensions determine properties such as appearance, slice resistance, and disposability and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Carson appears to teach the claimed aspect ratio (see Figures). In addition, Carson discloses that the desired guard plate size, shape, and spacing is dependent on slice resistance and disposability (column 4, lines 11-27) and that the guard plates may be formed with any desired size, shape, and spacing (column 5, lines 31-54). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the aspect ratio, such as claimed, because Carson discloses that the size and shape may be varied, and because it is understood by one of ordinary skill in the art that the aspect ratio determines properties such as slice resistance and disposability and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.



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Carson appears to teach the claimed gaps (see Figures and column 4, lines 11-27). In addition, Carson discloses that the desired guard plate size, shape, and spacing is dependent on slice resistance and disposability (column 4, lines 11-27) and that the guard plates may be formed with any desired size, shape, and spacing (column 5, lines 31-54). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the gaps, such as claimed, because Carson discloses that the spacing may be varied, and because it is understood by one of ordinary skill in the art that the gap width determines properties such as slice resistance and disposability and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Carson appears to teach the claimed guard plate thickness (see Examples). In addition, Carson discloses that the desired guard plate size, shape, and spacing is dependent on slice resistance and disposability (column 4, lines 11-27) and that the guard plates may be formed with any desired size, shape, and spacing (column 5, lines 31-54). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the thickness, such as claimed, because it is understood by one of ordinary skill in the art that the layer thicknesses determines properties such as slice resistance and disposability and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 56 and 58, the plates may comprise a cured epoxy resin (column 5, lines 31-54 and column 7, lines 8-22).

Regarding claim 57, the guard plates may include abrasive particles (column 6, lines 18-33 and column 7, lines 8-22).

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Regarding claim 59, considering that the composite fabric is substantially identical to the claimed fabric in terms of structure and materials, it would inherently possess the claimed abrasion resistance characteristic.

Regarding claim 64, the guard plates may be shaped as hexagons (Figure 8). In addition, Carson discloses that the desired guard plate size, shape, and spacing is dependent on slice resistance and disposability (column 4, lines 11-27) and that the guard plates may be formed with any desired size, shape, and spacing (column 5, lines 31-34). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the shape, such as claimed, because it is within the general skill of a worker in the art to select a known shape on the basis of its suitability and desired characteristics.

***Claim Rejections - 35 USC § 103***

7. Claims 47-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,383,614 to Carson in view of USPN 4,548,852 to Mitchell.

In the event that it is shown that Carson does not teach or suggest the claimed guard plates with sufficient specificity, Mitchell discloses that it is known in the food tray art to use an array of small, non-overlapping, convex, geometric-shaped, polymer material guard plates arranged in a predetermined pattern (see entire document including Figures 1-3, column 3, lines 42-53, and column 4, lines 16-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the guard plates from any suitable guard plate material and shape, such as the convex shape disclosed by Mitchell, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

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The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. **KSR v. Teleflex.**

### ***Response to Arguments***

8. Applicant's arguments filed 7/7/2008 have been considered but are moot in view of the new grounds of rejection.

### ***Conclusion***

9. The following patent is incorporated by reference by Carson (paragraph bridging columns 7 and 8) to teach guard plate patterns and shapes:

USPN 5,965,235 to McGuire

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/  
Primary Examiner, Art Unit 1794